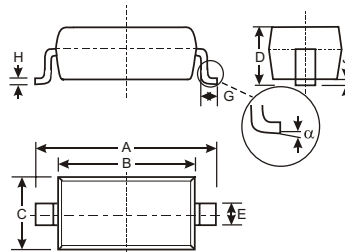


### Features

- Planar Die Construction
- 500mW Power Dissipation
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes
- Also Available in Lead Free Version

### Mechanical Data

- Case: SOD-123, Plastic
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 5, on Page 2
- Polarity: Cathode Band
- Marking: See Below
- Weight: 0.01 grams (approx.)
- Ordering Information: See Page 2



SOD-123		
Dim	Min	Max
A	3.55	3.85
B	2.55	2.85
C	1.40	1.70
D	—	1.35
E	0.55 Typical	
G	0.25	—
H	0.11 Typical	
J	—	0.10
$\alpha$	0°	8°
All Dimensions in mm		

### Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 2) @ $I_F = 10\text{mA}$	$V_F$	0.9	V
Power Dissipation (Note 1)	$P_d$	500	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	350	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150	$^\circ\text{C}$

- Notes: 1. Device mounted on ceramic PCB; 7.6 mm x 9.4 mm x 0.87 mm with pad areas 25 mm<sup>2</sup>.  
2. Short duration test pulse used to minimize self-heating effect.

### Marking Information



XX = Product Type Marking Code (See Page 2)  
 YM = Date Code Marking  
 Y = Year (ex: N = 2002)  
 M = Month (ex: 9 = September)

#### Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005
Code	J	K	L	M	N	P	R	S

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

## Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Type Number	Type Code	Zener Voltage Range (Note 2)			Test Current	Maximum Zener Impedance (Note 3)		Maximum Reverse Leakage Current (Note 2)	
		V <sub>Z</sub> @ I <sub>ZT</sub>				I <sub>ZT</sub>	Z <sub>ZT</sub> @ I <sub>ZT</sub>	Z <sub>ZK</sub> @ I <sub>ZK</sub> = 0.25mA	I <sub>R</sub>
		Nom (V)	Min (V)	Max (V)	mA	Ω		μA	V
MMSZ5221B	C1, C1	2.4	2.28	2.52	20	30	1200	100	1.0
MMSZ5223B	C3, C3	2.7	2.57	2.84	20	30	1300	75	1.0
MMSZ5225B	C5, C5	3.0	2.85	3.15	20	30	1600	50	1.0
MMSZ5226B	G1, G1	3.3	3.14	3.47	20	28	1600	25	1.0
MMSZ5227B	G2, G2	3.6	3.42	3.78	20	24	1700	15	1.0
MMSZ5228B	G3, G3	3.9	3.71	4.10	20	23	1900	10	1.0
MMSZ5229B	G4, G4	4.3	4.09	4.52	20	22	2000	5.0	1.0
MMSZ5230B	G5, G5	4.7	4.47	4.94	20	19	1900	5.0	2.0
MMSZ5231B	E1, E1	5.1	4.85	5.36	20	17	1600	5.0	2.0
MMSZ5232B	E2, E2	5.6	5.32	5.88	20	11	1600	5.0	3.0
MMSZ5233B	E3, E3	6.0	5.70	6.30	20	7	1600	5.0	3.5
MMSZ5234B	E4, E4	6.2	5.89	6.51	20	7	1000	5.0	4.0
MMSZ5235B	E5, E5	6.8	6.46	7.14	20	5	750	3.0	5.0
MMSZ5236B	F1, F1	7.5	7.13	7.88	20	6	500	3.0	6.0
MMSZ5237B	F2, F2	8.2	7.79	8.61	20	8	500	3.0	6.5
MMSZ5238B	F3, F3	8.7	8.27	9.14	20	8	600	3.0	6.5
MMSZ5239B	F4, F4	9.1	8.65	9.56	20	10	600	3.0	7.0
MMSZ5240B	F5, F5	10	9.50	10.50	20	17	600	3.0	8.0
MMSZ5241B	H1, H1	11	10.45	11.55	20	22	600	2.0	8.4
MMSZ5242B	H2, H2	12	11.40	12.60	20	30	600	1.0	9.1
MMSZ5243B	H3, H3	13	12.35	13.65	9.5	13	600	0.5	9.9
MMSZ5245B	H5, H5	15	14.25	15.75	8.5	16	600	0.1	11
MMSZ5246B	J1, J1	16	15.20	16.80	7.8	17	600	0.1	12
MMSZ5248B	J3, J3	18	17.10	18.90	7.0	21	600	0.1	14
MMSZ5250B	J5, J5	20	19.00	21.00	6.2	25	600	0.1	15
MMSZ5251B	K1, K1	22	20.90	23.10	5.6	29	600	0.1	17
MMSZ5252B	K2, K2	24	22.80	25.20	5.2	33	600	0.1	18
MMSZ5254B	K4, K4	27	25.65	28.35	5.0	41	600	0.1	21
MMSZ5255B	K5, K5	28	26.60	29.40	4.5	44	600	0.1	21
MMSZ5256B	M1, M1	30	28.50	31.50	4.2	49	600	0.1	23
MMSZ5257B	M2, M2	33	31.35	34.65	3.8	58	700	0.1	25
MMSZ5258B	M3, M3	36	34.20	37.80	3.4	70	700	0.1	27
MMSZ5259B	M4, M4	39	37.05	40.95	3.2	80	800	0.1	30

- Notes:
1. Device mounted on ceramic PCB; 7.6 mm x 9.4 mm x 0.87 mm with pad areas 25 mm<sup>2</sup>.
  2. Short duration test pulse used to minimize self-heating effect.
  3. f = 1KHz.

## Ordering Information (Note 4)

Device	Packaging	Shipping
(Type Number)-7*	SOD-123	3000/Tape & Reel

\* Add "-7" to the appropriate type number in Table 1 above example: 6.2V Zener = MMSZ5234B-7.

- Notes:
4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
  5. For Lead Free version (with Lead Free terminal finish) part number, please add "-F" suffix to part number above.  
Example: MMSZ5259B-7-F.

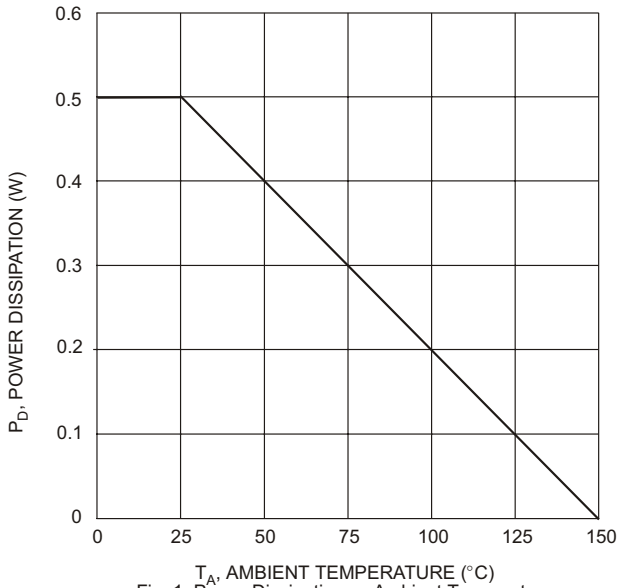


Fig. 1 Power Dissipation vs Ambient Temperature

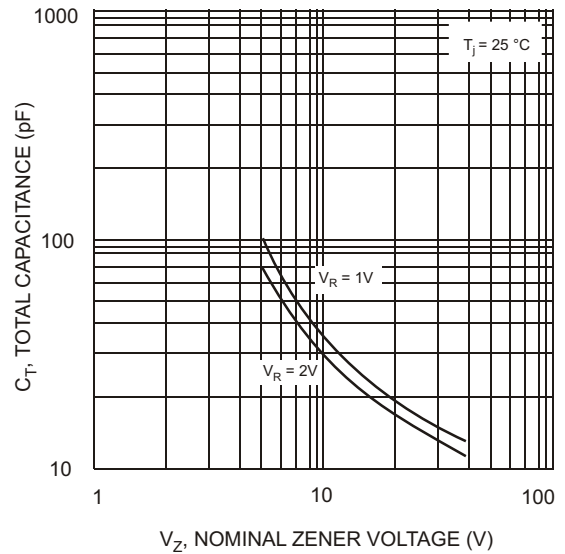


Fig. 2 Total Capacitance vs Nominal Zener Voltage

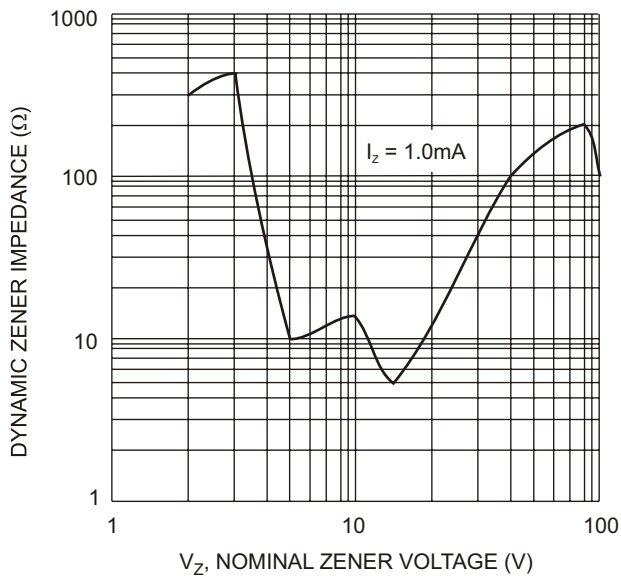


Fig. 3 Zener Voltage vs. Zener Impedance

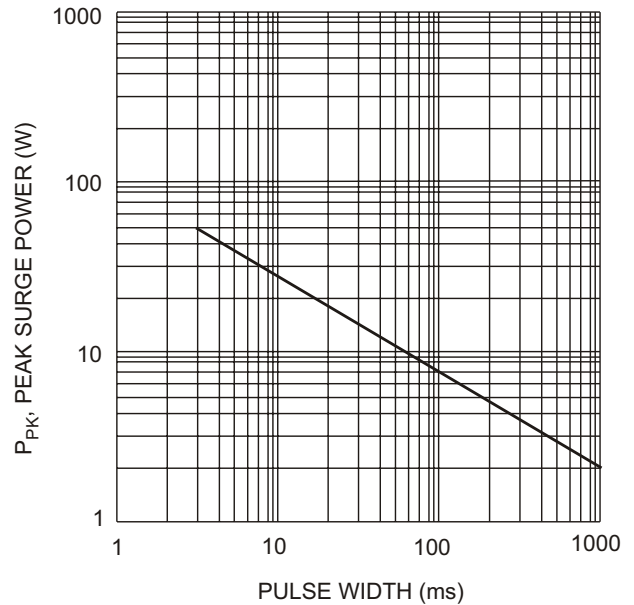


Fig. 4 Maximum Non-repetitive Surge Power

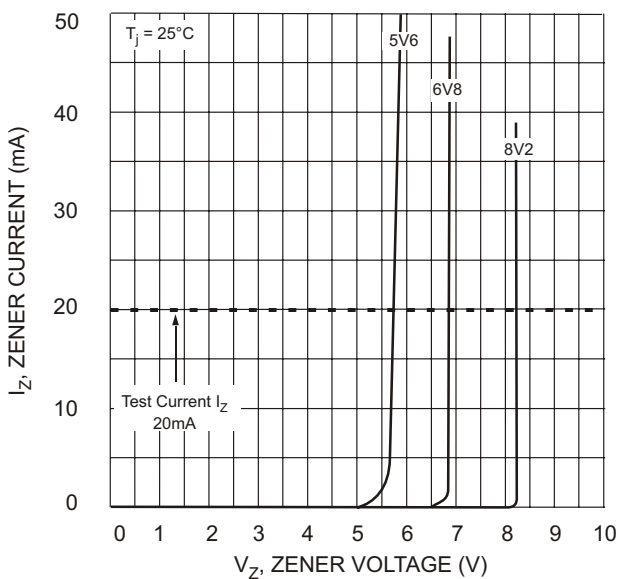


Fig. 5 Zener Breakdown Characteristics

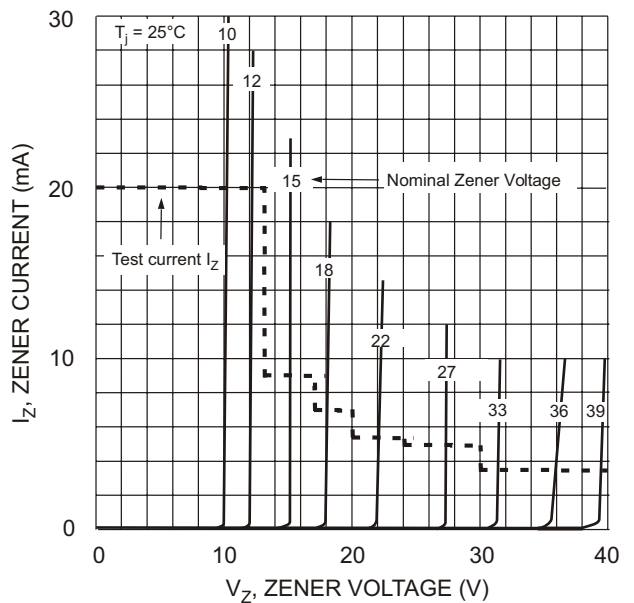


Fig. 6 Zener Breakdown Characteristics